

WHAT IS CLAIMED IS:

1. A method of identifying work performed on a workpiece in a work line comprising a plurality of zones, wherein each zone comprises a plurality of 5 workstations that perform the same type of operation, said method comprising the steps of:
  - (a.) in a first one of the zones, moving the workpiece from a first input area to a first workstation;
  - (b.) working on the workpiece in the first workstation;
  - 10 (c.) after step (b), moving the workpiece to a first output area in the first one of the zones;
  - (d.) marking the workpiece with a first mark at the first output area, said first mark indicating that the first workstation worked on the workpiece;
  - (e.) moving the workpiece to a second input area in a second one of the zones;
  - (f.) moving the workpiece from the second input area to a second workstation in the second one of the zones;
  - (g.) working on the workpiece in the second workstation;
  - 20 (h.) after step (g.), moving the workpiece to a second output area in the second one of the zones; and
  - (i.) marking the workpiece with a second mark at the second output area, said second mark indicating that the second workstation worked on the workpiece.
- 25 2. The method of claim 1, further comprising the steps:
  - (j.) moving the workpiece from the first workstation to a quality control station in the first one of the zones; and
  - (k.) inspecting the workpiece;

30 wherein steps (j.) and (k.) are performed between steps (b.) and (c.); and

wherein in step(c.), the workpiece is moved to the first output area from the quality control station.

3. The method of claim 1, wherein the first and second marks are in  
5 different locations on the workpiece, and wherein the location of the first mark in combination with the nature of the first mark identifies the first workstation as having worked on the workpiece, and wherein the location of the second mark in combination with the nature of the second mark identifies the second workstation as having worked on the workpiece.

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4. The method of claim 3, wherein the first and second marks are numeric characters.

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5. The method of claim 4, wherein steps (d.) and (i.) are performed by a pneumatic pin marking machine.

6. The method of claim 4, wherein the workpiece is an automotive crankshaft having first and second counterweights.

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7. The method of claim 6, wherein the location of the first mark is on the first counterweight and the location of the second mark is on the second counterweight.

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8. The method of claim 7, wherein the first and second counterweights are disposed at opposing ends of the crankshaft.

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9. The method of claim 1, wherein steps (a.) and (c.) are performed by a first autoloader, and wherein steps (f.) and (h.) are performed by a second autoloader, and wherein each of the first and second autoloaders comprises a carriage movably mounted to a guidance structure.

10. A method of identifying workstations that performed work on a workpiece in a work line comprising a plurality of zones, wherein each zone comprises a plurality of workstations that perform the same type of operation, said method comprising the steps of:

- 5           (a.) providing a unique code for identifying each workstation;
- (b.) performing work on the workpiece in one of the workstations in one of the zones;
- (c.) marking the workpiece in accordance with the code for the workstation that worked on the workpiece in step (b.);
- 10          (d.) if there is a zone following the current zone, moving the workpiece to the following zone; and
- (e.) if the workpiece has been moved to the following zone in step (d.), returning to step (b.).

15           11. The method of claim 10, wherein each of the unique codes comprises a mark and the location of the mark on the workpiece.

12. The method of claim 11, wherein the locations of the unique codes are on distinguishably different components of the workpiece.

20           13. The method of claim 11, wherein the unique codes comprise:  
              first unique codes, wherein for each of the first unique codes, the location is unique with respect to all of the other unique codes; and  
              second unique codes, wherein for each of the second unique codes, the  
25          location is not unique with respect to all of the other unique codes.

14. The method of claim 13, wherein the marks for the first unique codes are drill marks.

30           15. The method of claim 13, wherein each of the second unique codes comprises the nature of the mark and the location of the mark on the workpiece.

16. The method of claim 15, wherein the marks for the second unique codes are numeric characters.

5        17. The method of claim 16, wherein the numeric characters are single digit numerals.

18. The method of claim 10, wherein the workpiece is an automotive crankshaft having first and second counterweights.

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19. The method of claim 18, wherein each of the unique codes comprises a mark and the location of the mark on the workpiece; and  
wherein a portion of the locations of the unique codes are on the first counterweight and a portion of the locations of the unique codes are on the  
15        second counterweight.

20. The method of claim 19, wherein the first and second counterweights are disposed at opposing ends of the crankshaft.

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21. The method of claim 10, wherein step (c.) is performed by a pneumatic pin marking machine.

22. The method of claim 10, wherein steps (b.) and (c.) are performed for each of the zones in the work line.

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23. The method of claim 22, wherein the workstations in each zone perform a different operation than in the other zones.